

Three Wolf Spiders New to the Virginia Fauna (Araneae: Lycosidae)

Richard L. Hoffman*

Virginia Museum of Natural History
21 Starling Avenue
Martinsville, Virginia 24112

Steven M. Roble

Virginia Department of Conservation and Recreation
Division of Natural Heritage
217 Governor Street
Richmond, Virginia 23219

ABSTRACT

Three wolf spiders, *Schizocosa crassipes* (Walckenaer), *S. salsa* Barnes, and *Pardosa distincta* (Blackwall), are reported from Virginia for the first time. The last is a boreal species at its southernmost known locality in the eastern United States, whereas *S. salsa* was previously recorded only at the type locality in North Carolina. Additional Virginia records are provided for *S. humilis* (Banks), including a site in far southwestern Virginia outside of the previously known range of the species.

Key words: spider, Lycosidae, Araneae, Virginia.

In the virtual absence of any published listing of regional spider faunas in Virginia, current knowledge of this group depends largely on what records can be abstracted from published taxonomic treatments of various genera or families. Even these are often inadequate, in that they present distributional data in the form of spot maps without detailed citation of the original collection data. It is all too frequent that on such maps Virginia will be devoid of any symbols, or, if any are present, unidentifiable in terms of the county or locality they represent.

Information compiled by the first author in the late 1980s suggested that approximately 600 species of spiders were in one way or another documented from Virginia, with another 200 likely residents of the Commonwealth on the basis of their known distributions. Since that time, inventory surveys conducted by staff of the Virginia Division of Natural Heritage (VDNH) and the Virginia Museum of Natural History (VMNH) have accumulated enormous series of specimens from every part of the state,

among which are a predictable number of species in the “probable” category, and even some so far out of range that their occurrence here would never have been anticipated.

“Wolf spiders” of the genera *Pardosa* and *Schizocosa* are widespread and abundant in the eastern United States, some species often achieving high population densities and having substantial importance as small predators in soil-litter biotopes. Various papers (e.g., Vogel, 1964; Lowrie & Dondale, 1981; Dondale & Redner, 1984) have treated the numerous species groups containing the Nearctic representatives of the large (ca. 520 species worldwide; Platnick, 2012) and widespread genus *Pardosa*, which includes 65 species in the continental United States (Vogel, 2004). *Schizocosa* is a much smaller genus, containing about 60 species worldwide, including 27 in North America north of Mexico (Dondale, 2005; Platnick, 2012). Range maps in the most recent treatment of the Nearctic fauna (Dondale & Redner, 1978) showed Virginia localities for seven species (*S. avida* [Walckenaer], *S. bilineata* [Emerton], *S. duplex* Chamberlin, *S. humilis* [Banks], *S. ocreata* [Hentz],

*Deceased

S. retrorsa [Banks], and *S. saltatrix* [Hentz]) as well as for three others - in nearby states - likely to occur here. It is now possible to record Virginia localities for two of the three "potential species" on the basis of recent collections made by inventory programs of VMNH and VDNH. It remains only to discover an in-state population of the third species, *S. communis* (Emerton), which is known to occur from Nova Scotia west to Ontario and south to Pennsylvania (Dondale & Redner, 1978). Of the three newest members of this genus (i.e., those described after 1978) in North America, *S. stridulans* Stratton, which occurs from the Mississippi River east to southern Ohio and eastern Tennessee (Stratton, 1991), should be regarded as a potential species in Virginia and sought in the far southwestern portion of the state. Also, *S. uetzi* Stratton, which ranges from Arkansas and Louisiana east to northeastern Alabama and central Tennessee (Stratton, 1997), may occur in the westernmost counties of Virginia.

This paper documents the occurrence in southeastern Virginia of two species of *Schizocosa* of dominantly more austral distribution, as well as a species of *Pardosa* in the mountains of western Virginia that has a primarily boreal distribution. Although these records (all VMNH) represent the northernmost or southernmost known stations for each species, the actual range extensions are not great, and as poorly-known as our spider fauna remains, certainly not surprising.

Schizocosa crassipes (Walckenaer)

NEW STATE RECORD

For many years, the name *S. crassipes* was unknowingly applied to two very similar species, adequately distinguished only in the revision of *Schizocosa* by Dondale & Redner (1978). As there defined, *S. crassipes* is a small species confined largely to the Atlantic and Gulf Coastal Plains: South Carolina to southern Florida and west to Alabama, with an isolated record from coastal North Carolina (vicinity of Morehead City). Virginia specimens are available from the following localities: *Greensville Co.*: Fontaine Swamp at Co. Rt. 625, low wet grassy area, 25 May 1989, R. L. Hoffman (1). End of Co. Rt. 666, 1 mi NE of Claesville, 21 June - 14 July 1993, VMNH survey [R. L. Hoffman] (10); same but 25 March-26 May 1994 (27). *Isle of Wight Co.*: Antioch Pines Natural Area Preserve, 4 mi S of Zuni, unburned area DF, 6 June 2002, P. Koury, VDNH survey (1). *Northampton Co.*: Savage Neck Dunes Natural Area Preserve, DF near interdunal ponds, 20 May-22 June 1999, A. C. Chazal, VDNH survey (2). *York Co.*: Cheatham Annex Naval Supply Base, Cheatham Pond DF site, 6 July 1989, VDNH survey [K. A. Buhlmann] (45). Ponds at Grafton, 11 June 1990, C. A. Pague, VDNH

survey (17).

The Savage Neck site is near the southern tip of the Delmarva Peninsula (Fig. 1) and represents a northward range extension of at least 190 mi/300 km from the only documented locality in North Carolina (Dondale & Redner, 1978).

Schizocosa salsa Barnes

NEW STATE RECORD

Virginia Beach City: Dam Neck Navy Base, pitfall in swale, 1 August 1990, K. A. Buhlmann, VDNH survey (1♂).

Described from Beaufort, Carteret County, North Carolina (Barnes, 1953), this small and very distinctive species has not to our knowledge been reported since its treatment by Dondale & Redner (1978). Its capture in Virginia is only a slight northward range extension of some 150 miles/250 km, but carries the implication that *S. salsa* may occur farther both to the north and south in appropriate dune habitats.

The limited number of specimens, *vis-à-vis* of *S. salsa*, suggests either actual rarity or occupation of a biotope not adequately sampled by pitfalls. Barnes & Barnes (1954) found this species in coastal North Carolina in the drift (wrack) line of *Spartina alterniflora*/*S. patens* marshes and estuarine beaches (narrow, sandy, and protected from wave action), but not along wide, sandy oceanfront beaches that are regularly exposed to wave action.

Restriction of the "hair brush" to the distal third of the tibia in males is a definitive recognition character for *S. salsa*, in addition to its small size, color pattern, and unusually long palpal tibia.

Schizocosa humilis (Banks)

This species ranges from Ontario south to Florida and west to Arkansas, with nearly all known records near the Atlantic and Gulf coasts (Dondale & Redner, 1978). Only one record was plotted by these authors for Virginia, presumably in either Norfolk (City) or Cape Henry (Virginia Beach City). The following new collection partially fills the hiatus between this record and the next mapped record to the north (vicinity of Philadelphia): *Accomack Co.*: Assateague Island, Chincoteague National Wildlife Refuge, Grassy Pond DF site, 1 September-1 October 1998, VDNH survey [A. C. Chazal and S. M. Roble], (1♂). Quite unexpectedly, *S. humilis* has also been taken in far southwestern Virginia beyond the known range of this species (see map in Dondale & Redner, 1978): *Wise Co.*: Powell Mountain Karst Preserve, ca. 1.3 km E of Crackers Neck Church, pitfall traps near Solomon's Seal Cave, 28 April-10 May 2009, C. S.

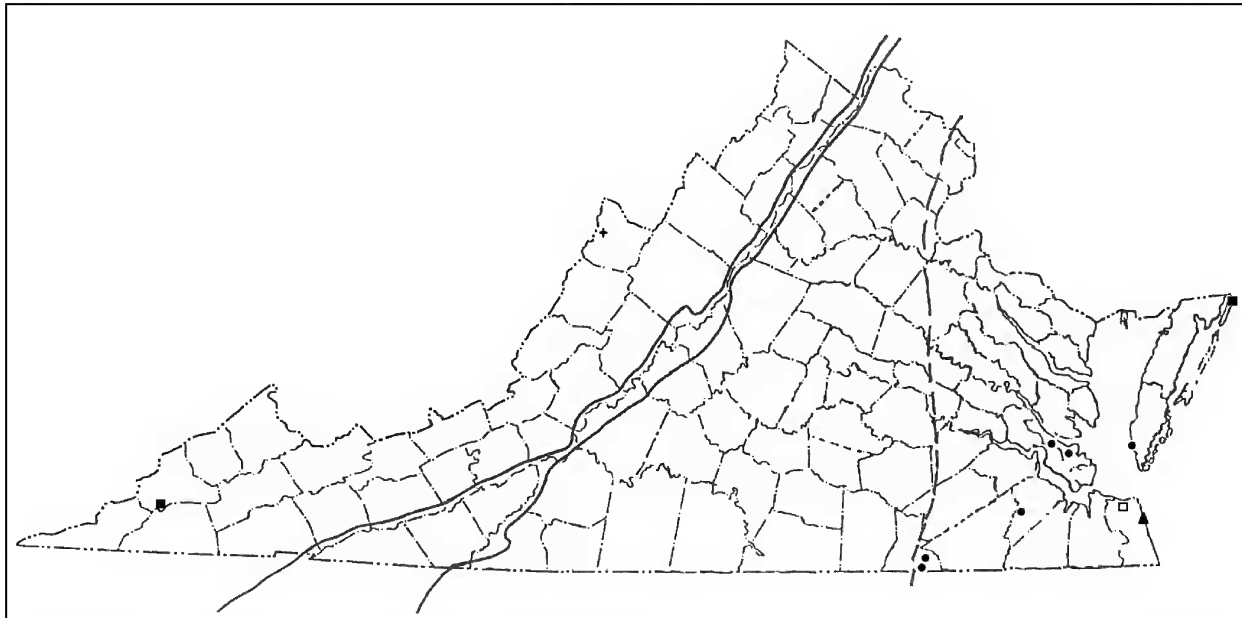


Fig. 1. Known distribution in Virginia of *Pardosa distincta* (+), *Schizocosa crassipes* (●), *S. salsa* (▲), and *S. humilis* (■). The open square (□) shows the approximate location of a literature record (Dondale & Redner, 1978) for *S. humilis*. Solid lines indicate the limits of the Blue Ridge physiographic province and the dashed line marks the location of the Fall Line separating the Coastal Plain and Piedmont regions.

Hobson and A. C. Chazal, VDNH survey (6♂). As more material is obtained from this part of the state, the possibility that this population could represent an undescribed sister species to *S. humilis* should be investigated.

Pardosa distincta (Blackwall)

NEW STATE RECORD

Highland Co.: Back Creek, 2.2 mi S jct. US Hwy. 250 on Co. Rt. 600, baited pitfall, 8 June 2011, S. M. Roble, VDNH survey (1♂).

This species is widespread in the northern United States and southern Canada, occurring throughout the Rocky Mountains from Arizona and New Mexico north into Alberta and extending eastward into the New England states south to Connecticut (Vogel, 1964, 2004; Dondale & Redner, 1990). It is also known from Pennsylvania (Vogel, 2004), with records for at least Westmoreland Co. (Powdermill Nature Reserve; Vogel, 1966) and Potter Co. (VMNH, two 1962 collections by W. A. Shear). Muma (1945) listed *P. distincta* from Garrett County in western Maryland (six females were “taken under logs in an open field”), apparently the southernmost record in the East prior to the present report. Gertsch & Wallace (1935) stated that this species is abundant in grassy meadows, being “one of the dominant forms of the genus in New

England and eastern Canada.” They also noted that it is common in suitable habitats at elevations of 5,000-8,000 feet in the Rocky Mountains. *Pardosa distincta* was described as being “extremely common” throughout Connecticut (Kaston, 1981) and Dondale & Redner (1990) reported that it inhabits fields, pastures, meadows, bogs, wheat fields, and orchards, and grassy clearings in woods. Collection sites in Michigan included beaches, shore outcrops, old fields, gravel pits, pine plantations, and deciduous forests (Wolff, 1981). The Virginia collection site is in a grassy meadow along Back Creek at an elevation of 875 meters (2870').

The palpal organ of *P. distincta* (see Gertsch & Wallace, 1935: 2, fig. 4; Kaston, 1981: 681, fig. 1099; Dondale & Redner, 1990: 150, fig. 182) is perhaps the most distinctive of any Virginia lycosid and cannot be confused with that of any other local species.

ACKNOWLEDGEMENTS

We thank Kurt Buhlmann, Anne Chazal, Chris Hobson, Phil Koury, and Chris Pague, current or former members of the VDNH staff, for their collecting efforts.

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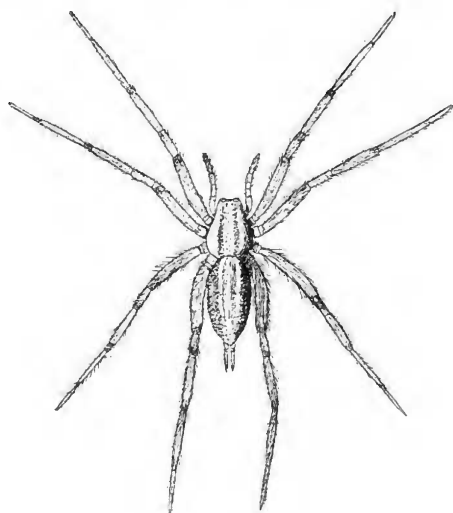
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Grass spider, *Agelenopsis* sp. (Araneae: Agelenidae); original drawing by Richard L. Hoffman (previously published as the cover illustration for *Banisteria* 15).